

REMARKS

I. Summary of the Examiner's Action

A. Specification Objections

As set forth in paragraph 3 of the June 15 Office Action, the Examiner objected to the specification because a clean copy of the abstract, as amended, was not provided.

B. Claim Rejections

As set forth in paragraph 5 of the June 15 Office Action, claims 1 – 10, 14, 16 – 25, 29 and 31 – 35 stand rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent Application Publication No. US 2004/0219891 to Hadjichristos (hereinafter “Hadjichristos” or “the Hadjichristos application”).

As set forth in paragraph 8 of the November 15 Office Action, claims 11 - 13 and 26 - 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Hadjichristos application.

These rejections are respectfully disagreed with, and are traversed below.

C. Claim Objections and Allowable Subject Matter

As set forth at paragraph 9 of the November 15 Office Action, the Examiner objected to claims 15 and 30 as being dependent upon a rejected base claim, but indicated

that the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

II. Specification Objections

Applicants have corrected the abstract, thereby obviating the objections of the Examiner to these elements of the application.

III. Applicant's Response – Claim Rejections

A. Rejection of Claims 1 – 10, 14, 16 – 25, 29 and 31 -35 under 35 U.S.C. § 102(e)

Claim 1 recites the following subject matter (emphasis added):

1. A radio frequency (RF) transceiver comprising a transmitter (TX) and a receiver (RX) for coupling to an antenna, the transmitter configured to transmit a signal through the antenna and the receiver RX configured to receive a signal through the antenna, said TX having a polar architecture that comprises at least one programmable delay element in at least one of an amplitude modulation (AM) path and a phase modulation (PM) path, further comprising an RF connection between an output of said TX and an input of said RX, and a controller that is responsive to an output of said RX when receiving a signal through said RF connection for determining at least one delay value for use in programming said at least one programmable delay element.

Applicants respectfully submit that it is not seen where the Hadjichristos application either describes or suggests the emphasized subject matter of claim 1.

In particular, claim 1 recites “an RF connection between an output of said TX and an input of said RX, and a controller that is responsive to an output of said RX when receiving a signal through said RF connection for determining at least one delay value for use in programming said at least one programmable delay element.” In comments appearing at page 5, lines 7 – 13 of the June 15 Office Action, the Examiner states:

“Regarding the argument of (1), applicant is referenced to paragraphs [0082] and [0083] of Hadjichristos, which he teaches that the delay controller (80) can be implemented in the baseband processor (44 of figure 9). As shown in figure 9, the baseband processor (44) is also receiving the output of the receiver (RX 146) and the baseband processor (44) can perform controlling the delay of transmitter (30) since the delay controller is now being part of the base processor (44).”

Absent from the Examiner’s analysis is a necessary finding: that the transmitted signal is fed back from the transmitter to the receiver in the embodiment depicted in figure 9 of Hadjichristos. Claim 1 requires that the signal used for determining the delay value for use in programming the programmable delay element be received by the receiver since an aspect of Applicants’ invention is to use pre-existing receiver apparatus to determine the delay value. The fact posited by the Examiner that the delay controller can be implemented in the baseband processor depicted in FIG. 9 of Hadjichristos is not determinative since signals can be routed to the baseband processor of Hadjichristos in a manner that is consistent with the preceeding description in Hadjichristos evident in FIG. 5 where the delay controller is part of the transmitter.

Any lingering doubt about the insufficiency of the Examiner's prima facie case of anticipation is dispelled by paragraphs [0082] and [0083] of Hadjichristos reproduced here:

“On that point, referring back to the context of FIG. 8, it should be noted that the delay controller 80 may be implemented almost wholly in baseband processor 44, or may be implemented within a transmitter or transceiver IC that includes, for example, the phase modulator 42 and the saturated drive amplifier 34. Nonetheless, the present invention is not limited to such embodiments, and other functional and physical arrangements of circuits may be used as needed or desired.

Indeed, the flexibility with regard to digital or analog domain signal processing in the delay controller 80 exemplifies the overall flexibility of the transmitter 30 contemplated by the present invention. Thus, as described herein, the present invention is directed to a transmitter that includes an extended dynamic range staged envelope modulation circuit, or that includes a delay controller that controls the group delay of the transmitter's phase modulation signal path and/or envelope modulation signal path based on real-time ACPR measurement, or that includes both features. As such, the present invention is not limited by the above exemplary details, or by the accompanying figures, but is rather limited only by the following claims and the reasonable equivalents thereof.”

Notably absent from this portion of Hadjichristos is either a description or suggestion that the signal used for calculating the delay is fed back through the receiver path. Although Hadjichristos in this portion speaks of the advantages of his disclosed embodiments, and depicts a switch 144 in FIG. 9 for controlling access to antenna 142, there is no recognition that the transmitted signal can be fed back through the receiver path. Neither

is there any recognition that existing receiver apparatus can be re-used to perform operations necessary to determine the delay value. Surely had Hadjichristos appreciated this simplification it would have been described at this point. Instead, Hadjichristos admits that separate circuitry has to be implemented in the baseband processor in order to perform the necessary operations.

Independent claim 31 recites “making an RF connection between an output of said TX and an input of an external test apparatus; and responsive to an output of said external test apparatus when receiving a signal through said RF connection, determining at least one delay value for use in programming said at least one programmable delay element.” It is not seen in Hadjichristos where the at least one delay value is determined in response to a signal received from the external test apparatus.

In view of the foregoing, Applicants respectfully request that the rejection of claim 1 be withdrawn. Applicants also respectfully submit that independent claim 16 is allowable both for reasons similar to claim 1 and for reasons attributable to its independently-recited features. Independent claim 31 is allowable for the foregoing reasons. Applicants further submit that dependent claims 2 – 10, 14, 17 – 25, 29 and 34 – 35 are similarly allowable both as depending from allowable base claims and for reasons attributable to their independently-recited features.

B. Rejection of Claims 11 – 13 and 26 – 28 under 35 U.S.C. § 103(a)

Applicants submit that none of the art of record remedies the deficiencies identified above with respect to Hadjichristos. Accordingly, Applicants respectfully request that the rejection of claims 11 – 13 and 26 – 28 be withdrawn as these claims depend from allowable base claims.

IV. Conclusion

Applicants submit that in light of the foregoing remarks the application is now in condition for allowance. Applicants therefore respectfully request that the outstanding rejections be withdrawn and that the case be passed to issuance.

Respectfully submitted,

October 15, 2007
Date

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